U.S. Patent Application Serial No. 10/611,969

Amendment filed August 16, 2004

Reply to OA dated June 18, 2004

**AMENDMENTS TO THE CLAIMS:** 

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:** 

Claim 1 (canceled).

Claim 2 (currently amended): [[The]] An electrolytic capacitor as claimed in Claim 1

comprising:

an electrode employing niobium alloy,

wherein a dielectric layer is formed on a surface of the electrode by anodizing the electrode,

<u>and</u>

wherein the niobium alloy employed as the electrode is formed by alloying niobium with at

least one type of additive metal selected from a group consisting of tungsten, vanadium, zinc,

aluminum, molybdenum, and hafnium, and zirconium.

Claim 3 (currently amended): [[The]] An electrolytic capacitor as claimed in Claim 2

comprising:

U.S. Patent Application Serial No. 10/611,969 Amendment filed August 16, 2004

Reply to OA dated June 18, 2004

an electrode employing niobium alloy,

wherein a dielectric layer is formed on a surface of the electrode by anodizing the electrode,

<u>and</u>

wherein the niobium alloy employed as the electrode contains aluminum, and the dielectric

layer formed on a surface of the electrode contains niobium oxide and aluminum oxide.

Claim 4 (currently amended): [[The]] An electrolytic capacitor as claimed in Claim 1

comprising:

an electrode employing titanium alloy,

wherein a dielectric layer is formed on a surface of the electrode by anodizing the electrode,

<u>and</u>

wherein the titanium alloy employed as the electrode is formed by alloying titanium with at

least one type of additive metal selected from a group consisting of tungsten, vanadium, zinc,

aluminum, molybdenum, and hafnium, and zirconium.

Claim 5 (currently amended): [[The]] An electrolytic capacitor as claimed in Claim 1

comprising:

an electrode employing tungsten alloy,

U.S. Patent Application Serial No. 10/611,969
Amendment filed August 16, 2004

Reply to OA dated June 18, 2004

wherein a dielectric layer is formed on a surface of the electrode by anodizing the electrode,

<u>and</u>

wherein the tungsten alloy employed as the electrode is formed by alloying tungsten with at

least one type of additive metal selected from a group consisting of niobium, titanium, tantalum,

vanadium, zinc, aluminum, molybdenum[[,]] and hafnium, and zirconium.

Claim 6 (currently amended): [[The]] An electrolytic capacitor as claimed in Claim 1

comprising:

an electrode employing one type of an alloy selected from a group consisting of niobium

alloy, titanium alloy, and tungsten alloy,

wherein a dielectric layer is formed on a surface of the electrode by anodizing the electrode,

<u>and</u>

wherein a total content of the additive metal content of each alloy is in the range of 0.01 to

10 wt%.

Claim 7 (currently amended): An electrolytic capacitor comprising:

an electrode of mixed sinter of niobium and aluminum, made by sintering mixed powder of

niobium and aluminum[[;]],

U.S. Patent Application Serial No. 10/611,969 Amendment filed August 16, 2004

Reply to OA dated June 18, 2004

wherein a dielectric layer containing niobium oxide and aluminum oxide is formed on a surface of the electrode by anodizing the electrode.

Claim 8 (original): The electrolytic capacitor as claimed in Claim 7, wherein the amount of aluminum to the total amount of niobium and aluminum is in the range of 0.01 to 10 wt%.

Claim 9 (currently amended): An electrolytic capacitor comprising: an electrode of fluorine-doped niobium or <u>fluorine-doped</u> niobium alloy; and a dielectric layer formed on a surface of the electrode by anodizing the electrode.

Claim 10 (original): The electrolytic capacitor as claimed in Claim 9, wherein the dielectric layer contains niobium fluoride.

Claim 11 (withdrawn): A fabrication method for electrolytic capacitor comprising the steps of: doping fluorine in an electrode by heat-treatment in fluorine gas atmosphere; and forming a dielectric layer on a surface of the electrode by anodizing the electrode.

Claim 12 (withdrawn): The fabrication method for electrolytic capacitor as claimed in Claim 11, wherein the temperature of the heat-treatment is not higher than 200°C.

U.S. Patent Application Serial No. 10/611,969

Amendment filed August 16, 2004

Reply to OA dated June 18, 2004

Claim 13 (withdrawn): A fabrication method for electrolytic capacitor comprising the step

of anodizing an electrode in aqueous solution containing fluorine ion that makes fluorine doped in

the electrode of niobium or niobium alloy and a dielectric layer formed on a surface of the electrode

by anodizing the electrode.

Claim 14 (withdrawn): The fabrication method for electrolytic capacitor as claimed in

Claim 13, wherein the aqueous solution of fluorine ion contains at lest one kind of fluoride selected

from the group consisting of ammonium fluoride, potassium fluoride, sodium fluoride, and fluoric

acid.